IN THE CLAIMS

Please cancel Claims 6,18-23,26,51,63,89,110,130,131, and 133, without prejudice or disclaimer, and amend Claims 1-5,7,11,32,40,48-50,52,54,56,57,102,112,114,122,123,125,129, and 132 as provided below:

1. **(Twice Amended)** A method for plasma plating comprising:

positioning a substrate within a vacuum chamber;

positioning a depositant in an evaporation source within the vacuum chamber;

reducing an initial pressure in the vacuum chamber to at or below 4 milliTorr;

flowing a gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber to at or between 0.1 milliTorr and 4 milliTorr;

applying a negative dc signal to the substrate at a voltage amplitude at or between 1 volt and 5000 volts;

applying a radio frequency signal to the substrate at a power level at or between 1 watt and 50 watts; and

heating the depositant to a temperature at or above the melting point of the depositant, whereby a plasma is generated in the vacuum chamber, which includes a mixture of positively charged depositant ions and electrons, and the depositant ions are plated on a surface of the substrate.

2. **(Amended)** The method of Claim 1, wherein reducing the initial pressure in the vacuum chamber to at or below 4 milliTorr includes reducing the pressure in the vacuum chamber to at or below 1.5 milliTorr, and wherein flowing a gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber to at or between 0.1 milliTorr and 4 milliTorr includes flowing the gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber to at or between 0.5 milliTorr and 1.5 milliTorr.

3. **(Amended)** The method of Claim 1, wherein applying the negative dc signal to the substrate at a voltage amplitude at or between 1 volt and 5000 volts includes applying a negative dc signal to the substrate at a voltage amplitude at or between negative 500 volts and negative 750 volts.

4. **(Amended)** The method of Claim 1, wherein the power level is provided at or between 5 watts and 15 watts.

5. **(Amended)** The method of Claim 1, wherein the power level is around 10 watts.

6. **(Cancel)** The method of Claim 1, wherein applying the dc signal to the substrate includes applying the dc voltage at a negative polarity, and the plasma includes positive depositant ions.

7. **(Amended)** The method of Claim 1, wherein reducing the initial pressure in the vacuum chamber to at or below 4 milliTorr includes reducing the initial pressure in the vacuum chamber to at or below 1.5 milliTorr, and flowing the gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber to at or between 0.1 milliTorr and 4 milliTorr includes flowing the gas through the vacuum chamber at a rate to raise the pressure to at or between 0.5 milliTorr and 1.5 milliTorr, wherein applying a negative dc signal to the substrate at a voltage amplitude at or between 1 volt and 5000 volts includes applying a negative dc signal to the substrate at a voltage amplitude at or between negative 500 volts and negative 750 volts, and wherein the power level is provided at or between 5 and 15 watts.

11. **(Amended)** The method of Claim 9, further comprising:

rotating the turntable at a rotational rate of revolutions per minute at or between 12 revolutions per minute and 15 revolutions per minute.

18. **(Cancel)** The method of Claim 8, wherein the platform includes a vertical surface.

19. **(Cancel)** The method of Claim 8, wherein the platform includes an inclined surface.

20. **(Cancel)** The method of Claim 8, wherein the platform includes a curved surface.

21. **(Cancel)** The method of Claim 8, wherein the platform includes a curvilinear surface.

22. **(Cancel)** The method of Claim 8, wherein the platform includes a helical surface.

23. **(Canc 1)** The method of Claim 8, wherein the platform is a support structure.

26. **(Cancel)** The method of Claim 8, wherein the platform includes a roller.

32. **(Twice Amended)** The method of Claim 1, further comprising:

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positioning the evaporation source relative to the substrate.

40. **(Twice Amended)** The method of Claim 1, further comprising:

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positioning the evaporation source relative to the substrate;

positioning a second depositant, which is made of the same material as the depositant, in a second evaporation source within the vacuum chamber; and

positioning the second evaporation source relative to the substrate.

48. **(Twice Amended)** The method of Claim 1, further comprising:

an array of substrates, and the substrate is provided as one of the array of substrates;

positioning the evaporation source relative to outwardly facing surfaces of the array of substrates;

positioning a second depositant in a second evaporation source within the vacuum chamber; and

positioning the second evaporation source relative to inwardly facing surfaces of the array of substrates.

49. **(Amended)** The method of 48, wherein the total mass of the second depositant is 20 to 80 percent less than the total mass of the depositant.

50. **(Amended)** The method of 49, wherein the total mass of the second depositant is 40 to 50 percent less than the total mass of the depositant.

51. **(Cancel)** The method of Claim 1, further comprising:

positioning the substrate relative to the evaporation source.

52. **(Twice Amended)** The method of Claim 1, further comprising:

positioning a second depositant in a second evaporation source within the vacuum chamber before reducing the pressure in the vacuum chamber to at or below 4 milliTorr; and

heating the second depositant to at or above the melting point of the second depositant, whereby a second plasma is generated in the vacuum chamber, which includes a mixture of positively charged second depositant ions and electrons, and the second depositant ions are plated on the surface of the substrate that was plated with the depositant ions.

54. **(Twice Amended)** The method of Claim 52, further comprising:

positioning a third depositant in a third evaporation source within the vacuum chamber before reducing the pressure in the vacuum chamber to at or below 4 milliTorr; and

heating the third depositant to a temperature at or above the melting point of the third depositant, whereby a third plasma is generated in the vacuum chamber, which includes a mixture of positively charged third depositant ions and electrons, and the third depositant ions are plated on the surface of the substrate that was plated with the second depositant ions.

56. **(Amended)** The method of Claim 1, wherein the radio frequency signal is provided at a frequency above one kilohertz range.

57. **(Amended)** The method of Claim 1, wherein the radio frequency signal is provided at a frequency above one megahertz range.

63. **(Cancel)** The method of Claim 62, wherein the cleaning the substrate includes cleaning the substrate to meet a defined standard.

89. **(Cancel)** The method of Claim 1, wherein the gas is a noble gas.

102. **(Amended)** The method of Claim 1, wherein the gas is argon and the despositant is a metal alloy of silver/palladium, and the plasma includes argon ions and silver/palladium ions.

110. **(Cancel)** The method of Claim 1, wherein the evaporation source is a support structure.

112. **(Twice Amended)** The method of Claim 111, wherein heating the depositant includes incremental staging of the current to the evaporation source to achieve an even heat distribution in the depositant.

114. **(Amended)** The method of Claim 113, wherein the amplitude of the alternating current is controllably increased such that the depositant is uniformly heated and melted.

122. **(Amended)** The method of Claim 1, further comprising:

performing backsputtering before heating the depositant that includes:

reducing the pressure in the vacuum chamber to at or below 100 milliTorr;

flowing a gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber at or between 20 milliTorr and 100 milliTorr;

applying a dc signal to the substrate at a voltage amplitude at or between 1 volt and 4000 volts; and

applying a radio frequency signal to the substrate at a power level at or between 1 watt and 50 watts.

123. **(Amended)** The method of Claim 122, wherein reducing the pressure in the vacuum chamber to at or below 100 milliTorr includes reducing the pressure in the vacuum chamber to at or below 50 milliTorr, and wherein flowing the gas through the vacuum chamber at a rate to raise the pressure in the vacuum chamber at or between 20 milliTorr and 100 milliTorr includes flowing the gas through the vacuum chamber at a rate to raise the pressure at or between 20 milliTorr and 50 milliTorr.

125. **(Amended)** The method of Claim 122, wherein the power level is provided at or between 5 and 15 watts.

129. **(Twice Amended)** A method for plasma plating comprising:

positioning a substrate within a vacuum chamber;

positioning a depositant in the vacuum chamber;

reducing an initial pressure in the vacuum chamber to at or between 0.5 milliTorr and 1.5 milliTorr;

applying a negative dc signal to the substrate at a voltage amplitude at or between 500 volts and 750 volts;

applying a radio frequency signal to the substrate at a power level at or between 1 watt and 50 watts; and

heating the depositant to a temperature at or above the melting point of the depositant, whereby a plasma is generated in the vacuum chamber, which includes a mixture of positively charged depositant ions and electrons, and the depositant ions are plated on a surface of the substrate.

130. **(Cancel)** The method of Claim 129, wherein applying the dc signal to the substrate at a voltage amplitude at or between 1 volt and 5000 volts includes applying a dc signal to the substrate at a voltage amplitude at or between 500 volts and 750 volts.

131. **(Cancel)** The method of Claim 129, wherein applying the dc signal to the substrate includes applying the dc voltage at a negative polarity, and the plasma includes positive depositant ions.

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132. **(Amended)** The method of Claim 129, wherein the power level is provided at or between 5 and 15 watts.

133. **(Cancel)** The method of Claim 129, wherein applying a dc signal to the substrate at a voltage amplitude at or between 1 volt and 5000 volts includes applying a dc signal to the substrate at a voltage amplitude at or between 500 volts and 750 volts with a negative polarity, and wherein the power level is provided at or between 5 and 15 watts.